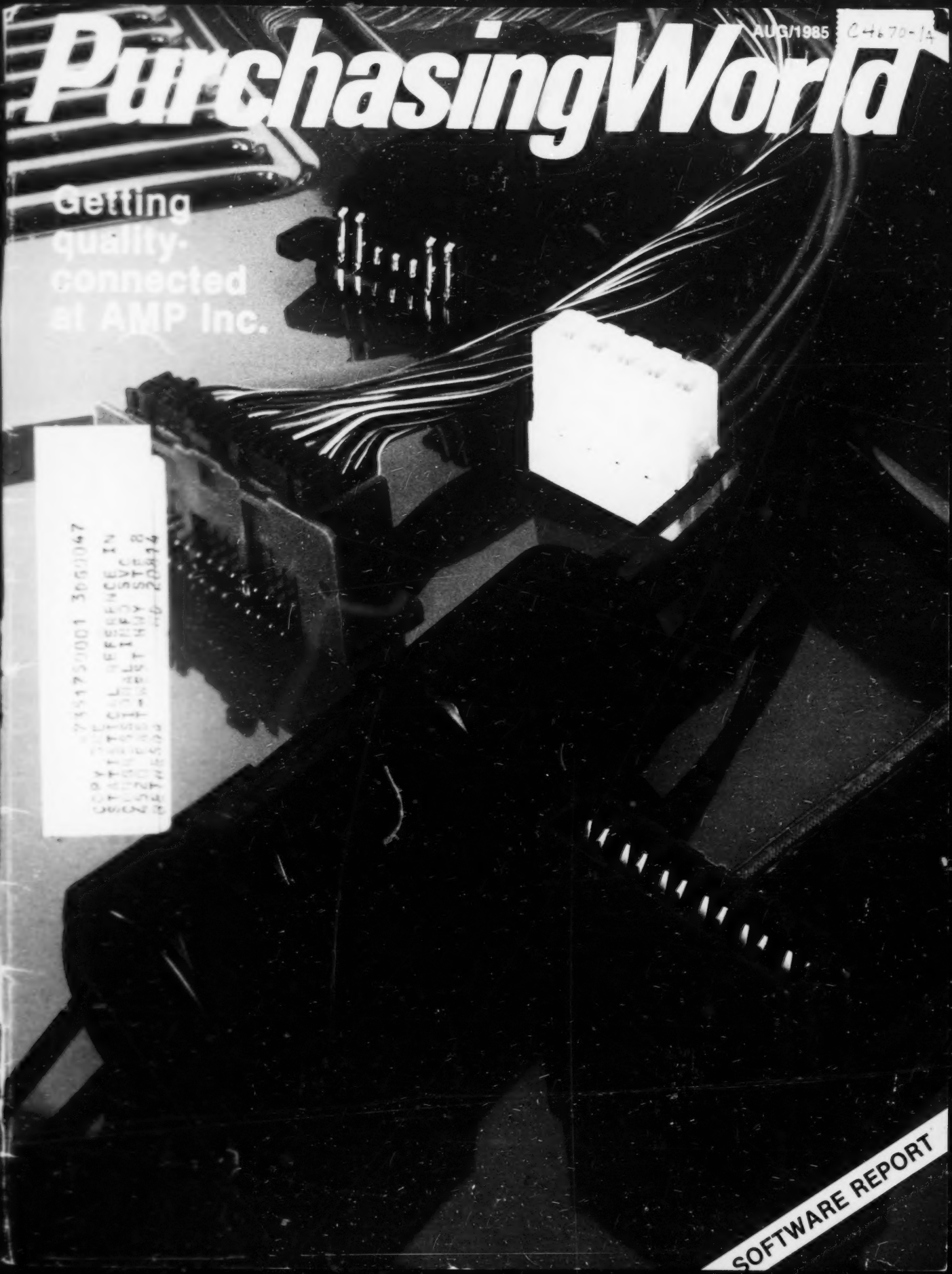
Purchasing World

AUG/1985

C4170-14

getting quality-connected at AMP Inc.



SOFTWARE REPORT

COPY PROVIDED BY THE CHEMICAL INDUSTRY INSTITUTE OF TOXICOLOGY
ATTN: DOCUMENT CONTROL
2421 HOLLY HILL ROAD
P.O. BOX 12137
RESEARCH TRIANGLE PARK, NC 27709

PurchasingWorld

Helping you manage the business of buying

Vol. 29 No. 8-August 1985

Features

31 Getting quality-connected at AMP Inc.
When a good and valued customer asks you to join in their efforts to improve quality, you owe it to yourself to give them an attentive hearing. The message to 160 suppliers of electronics industry superpower AMP Inc., of Harrisburg, PA, was delivered last summer at AMP's Supplier Awareness Days. This PW interview with director of corporate purchasing Earl Hennenhoefer describes the elements of AMP's commitment to quality improvement as an on-going process.

36 How to make smart software purchases
Here's our compendium of tips on how to evaluate software for purchasing and manufacturing applications. And there's more. You will find a listing of almost 50 currently available software programs and their capabilities.

50 "Spedition" coming to U.S. transportation
A Computer-based system that links manufacturer, distributor, warehouses, and providers of transportation services in one common network is in the not-too-distant future, according to Rodger D. Wasserman, president, American Delivery System, Detroit.

60 Enter PW's Buyer of the Year Competition
Managers and department heads, this is your chance to single out a buyer from your company for special recognition in PurchasingWorld's first ever, annual Buyer of the Year competition. Turn to our announcement and entry form for details of how you may nominate a deserving buyer for this singular honor—which carries with it a valuable prize of an electronic typewriter for your company. Three winners will be selected in each of three categories based on size of plant location.

62 New "toys" in your electronic future
If you thought that decision making in purchasing in high-tech industries was going to get easier, forget that thought. Here's a forecast from Jerry Wasserman, vice president of Arthur D. Little Inc., Cambridge, MA, that sheds some light on exactly which high tech developments are likely to grow faster, slower, etc.

Cover Photo: Courtesy of AMP Inc., Harrisburg, PA

36

60

Departments

4 PW Pointers
6 Editorial
11 PW Predicts
23 Business Datatrak
50 PW Transportation Report
55 Ad Index
61 Classified

PurchasingWorld (USPS 472 470) is published monthly by Huebner Publications, Inc., 6521 Davis Industrial Parkway, Solon, OH 44139. Printed in USA. Subscriptions: Available without charge to qualified purchasing executives in US manufacturing companies. Available to others in the US for $46/year; Canada $56/year. Foreign subscriptions are available for $70 airmail or $40 surface mail. Sole agent for all subscriptions outside the U.S.A. and Canada is J.B. Tratsart, Ltd., 154a Greenford Road, Harrow, Middlesex HA 13QT, England. Second class postage paid at Cleveland, OH, and additional mailing offices. Editorial, circulation, and business offices: 6521 Davis Industrial Parkway, Solon, OH 44139.

® Copyright 1985 by Huebner Publications, Inc., subsidiary of International Thomson Business Press—All rights reserved.

ISSN 0093 1659

Postmaster: Send address changes to **PurchasingWorld**, 6521 Davis Industrial Parkway, Solon, OH 44139

PW PREDICTS

Robert S. Reichard, executive editor

All's quiet on the price front

Continuing pressures promise to hold prices in check for the rest of this year and probably into early next year.

One big factor is that first half 1985 economic performance suggests overall inflation (GNP basis) may well turn out to be under the 4% rate projected by most business analysts and econometric models. Industrial tags are even rosier with all signs pointing to only a 1% advance for all of 1985.

But optimism is based on more than year-to-date performance. Keep in mind that virtually all of the forces that held prices down in 1984 and early 1985 will continue in the next few quarters. These include:

- **Continuing strong dollar:** Even though some 5% has been knocked off the early 1985 peak, things have stabilized following the decline, and the dollar remains high enough to assure continued inflow of cheap imports and price restraint by domestic producers.
- **Weakening crude oil position:** New declines seem inevitable as the world glut grows and OPEC proves unable to hold member nations to production quotas. The rule-of-thumb Data Resources Inc. uses to illustrate the impact of oil price declines on prices is that every $1/bbl drop in price of oil brings the overall cost-of-living index down 0.2%.
- **Soft raw material prices:** The *PW* Raw Materials Price Barometer (see accompanying table) is actually running more than 10% under a year ago as Third world nations continue to produce as if there were no tomorrow and as U.S. production requirements continue with little or no advance.
- **Relatively low operating rates:** The domestic factory utilization rate has actually shown some fractional declines in recent months as production marks time and new capacity comes on stream at a 2-3% annual rate.
- **Continued wage restraint:** Pay rates show little indication of rebounding from the subdued pace established over the past few years. The overall 1985 increase, for example, is expected to run only in the 4-5% range. This cannot be underestimated since two-thirds of every sales dollar can ultimately be traced back to labor.
- **Bumper food crops:** Good growing weather this summer, combined with smaller U.S. food exports, will limit food price increases to 2-4% this year. Even meat prices have failed to rise as expected.
- **The Fed's cautious monetary stance:** While some easing has been noted lately, there is little indication of a shift back to easy money days. Few economists, for example, expect the prime rate to drop and stay under 9% for any length of time. Even if this did occur, it would take at least 6-9 months to have any inflationary impact.

If there is still any doubt about today's buyers' market, take a look at the latest NAPM Business Survey Committee results: For seven consecutive months now, buyers experiencing price declines have been outnumbering those hit with increases.

R&D outlays

Research and development expenditures will hit a peak of $78 billion this year—an 11% gain over 1984.

That's what top corporations are telling McGraw-Hill survey takers these days. And, because R&D price inflation is expected to be minimal, all the advance should be real.

Even hard-hit industries such as steel and nonferrous industries, which expect 25% gains, are jumping on the R&D bandwagon. (See accompanying chart)

But the big outlays will continue to center in the traditional sectors: $18.3 billion for aerospace; $16 billion for electrical machinery; $10.3 billion for nonelectrical machinery; and $8.1 billion for chemical industries.

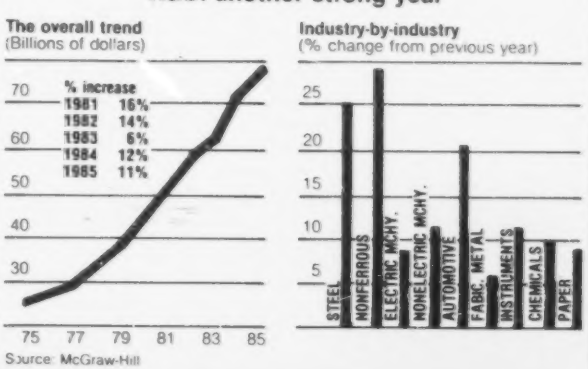
The computer industry, with a planned 11.4% increase in R&D, is concentrating more than half of its efforts on software development rather than on hardware.

Projected 1985 R&D is also strong compared to capital spending—accounting for 20% of total plant and equipment outlays.

Equally noteworthy is the still-rising percent of sales dollar being earmarked for research. This year it will hit an all-time high of 3.1%. In some specific industries the percentages are real eye-openers: 20% of sales in aerospace, and 12% in instruments.

And the rosy picture doesn't stop at 1985. Over the next three years, gains are expected to be around 7% annually.

R&D: another strong year



Textiles

CURRENT SITUATION: It's turning out to be another competitive year as imports continue to take a heavy toll on domestic sales. If there's any doubt about the industry's problems, look at these statistics: 1) Domestic mill production is running 8% under a year ago, 2) operating rates are at only 76%, 3) mill employment is down 7% from a year ago, and 4) prices continue to edge lower. Manmade fibers are off 2%—with grey fabrics lagging 1% behind 1984. Even this doesn't tell the whole story—competition is reducing actual transaction prices even more.

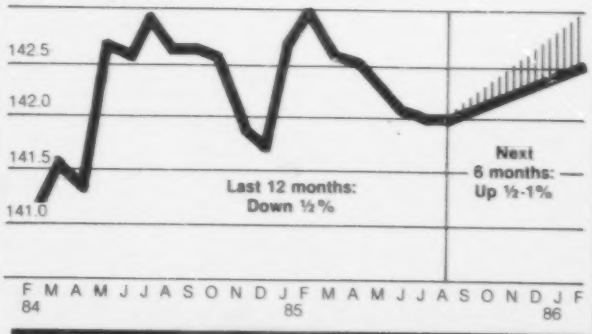
DEMAND: Don't bet on any near-term turnaround. Aside from the import problems, there is a good chance that consumers will become more cautious—on a combination of decelerating GNP gains, smaller advances in discretionary income, and high consumer debt (18% of income versus the historical 15.5%). Domestic mill men (responding to a recent survey) are still hoping for a 1.5-2% gain for 1985, but this seems overly optimistic—especially when mill production trends point to as much as a 5% decline for 1985.

SUPPLY: Imports plus domestic potential adds up to a continuing glut. Incoming shipments of combined textile and apparel have leveled off—but at very high levels. Even if they begin to tail off, there would still be plenty to go around since domestic mills are now operating at only 76% of capacity. Manmade fiber activity is at only 80% of capacity. And cotton bumper crops have led to a 4.4 million bale carryover this summer. **An even bigger 6.8 million bale excess is expected a year from now.**

PRICE OUTLOOK: Count on weakness prevailing into 1986. Price averages may indeed inch up 1% or so but that's about it as supplies continue to exceed demand and low priced imports undercut the market.

Textile mill products

(Index: Dec. '75 = 100)



Steel

Demand won't be strong enough to allow for any appreciable near-term price firming, especially on volume flat-rolled products. For the year as a whole, price averages on a transaction basis (for the overall steel mix) could end up 2% under 1984 levels. As for second half shipments, right now the industry is talking about 37 million tons, close to the January-June performance. But some progress is expected in the drive to stem imports—with the first half's 12.5 million-ton incoming total expected to drop by as much as 2 million tons over the rest of the year—as import quotas begin to have some impact.

Electronic components

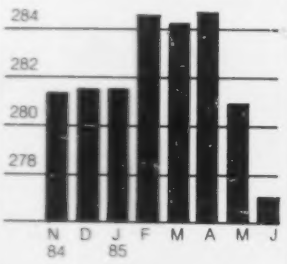
Markets continue to be shaky, as inventory paring keeps downward pressure on prices. Demand is way down. Semiconductor dollar totals are expected to be off some 10% this year in marked contrast to last year's big 35% spurt. The new forecast, supplied by Henderson Ventures, predicts strong deceleration in passive components where last year's 20% advance will dwindle down to 2.5%. And 1986 doesn't promise any major recovery. Semiconductor and passive component dollar deliveries are expected to rise by only 9% and 5% —a modest gain for what was one of the nation's top growth industries.

Paper products

Linerboard is still relatively soft and readily available at $290/ton. Some transaction prices are even lower—in the $260-270/ton range. This softness is in turn putting downward pressure on corrugated cartons which have dropped about 5-7% since the beginning of the year, with further declines possible. Other signs of easiness: the continued postponement of a newsprint hike (now scheduled for September) and the dropping of premiums on imported coated papers. On the other hand, uncoated white papers have firmed —with at least part of a $60/ton boost expected to hold.

Corrugated box prices

(Index: 1967 = 100)



Aluminum

Buyers continue to call the signals. Ingot has sunk under 50¢/lb. Other signs of softness: 1) the recent 15% decline in aircraft extrusions to bring them in line with actual market quotes, 2) more drops in secondary ingot, and 3) continued import pressure, especially in the mill product sector. Produc-

Lead

CURRENT SITUATION: The heavy metal continues to take its lumps these days— with prices dropping to under 20¢/lb recently. The soft domestic market is mirrored overseas where the LME has recently been down under 18¢/lb. Behind the weakness: 1) the summer seasonal lull in battery demand, 2) gradual elimination of leaded gasoline, 3) rising producer inventories, and 4) a relatively strike-free year.

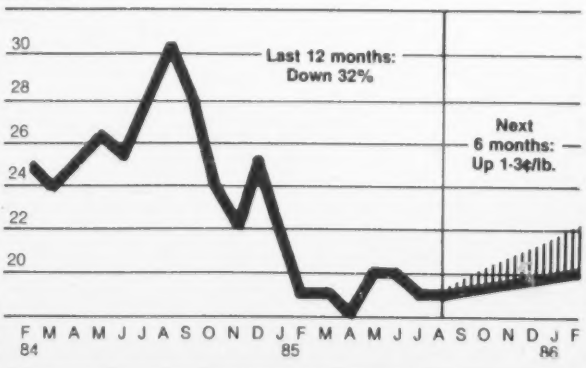
DEMAND: A less-than-successful battery year and continued phaseout of lead in gasoline suggest little overall improvement here. Best bet: Domestic usage totals will remain at or near last year's 1.1 million-metric-ton level. Even this may be overly optimistic—one producer predicts sales may be off as much as 5% this year. Longer term projections don't look that much better. **Analysts see only a 0.5-1% annual creep up over the next decade.**

SUPPLY: Rising producer stocks, which have almost doubled since the beginning of the year, tell the story. The inventory buildup in the face of lagging demand has forced one major U.S. producer to shut down for all of July—and there's still more than enough to go around. Added pressure is coming from overseas. **All signs point to about a 10% increase in Free World mine output in 1985**—offsetting 1984's strike-impacted decline.

PRICE OUTLOOK: Prices are probably as low as they're going to go—primarily because most mines and secondary smelters are losing money today. **However, there's little indication of any sustained rally.** The start of the battery-buying season could firm the market a bit by this fall. But any price advance should be quite moderate—tags shouldn't move above 22¢/lb this year. Overcapacity and stagnating demand should keep prices about the same for 1986 as well.

Producer lead

(cents/lb.)



Zinc

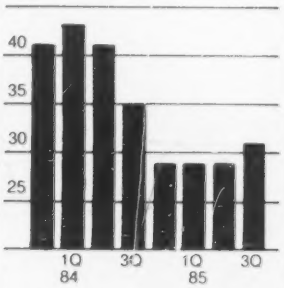
Markets remain shaky, with prices dropping down to near 41¢/lb—some 3¢/lb off previous official lists.Even bigger breaks are being offered by merchants. European producer prices have also dropped another $50/ton (to $830/metric ton). Some leveling off is likely before too long, reflecting both the normal fall in business pickup, relatively trim inventories, and continued strength in such zinc-using industries as automobiles and housing. Another plus sign: increased use of the metal in cars. Some price firming can't be ruled out by year-end. But gains will only be on the order of a few cents—not nearly enough to to bring the 1985 average up to last year's 49¢/lb level.

Low-density polyethylene

New price boosting attempts (ranging as high as 5¢/lb) will be only partially successful. That would mark a major change from earlier this year when both first and second quarter boosts failed to hold. Best bet for the liner/film grade transaction price over the next few months: 30-32¢/lb. Also suggesting modest firming: rising European tags that should cut down on shipments to the U.S. On the other hand, a big increase seems remote as ethylene costs remain low, demand rises 1-2% this year, and operating rates hold in the 80% range.

Low-density polyethylene (liner/film grade)

(Transaction price, ¢/lb.)



Styrene

Prices are moving up into the 30-31¢/lb range, up as much as 5¢/lb from recent levels. Behind the advance: rapidly increasing benzene cost pressures, with styrene feedstock up 30¢/gallon since March. The new styrene increase is also putting new upward pressure on polystyrene (recently in the 35-37¢/lb range for general purpose material). Several firms have already announced new boosts.

Copper

The summer doldrums are taking their toll. Quotes are sinking into the mid-60¢ range. Adding to the downward pressure

Portable computers

Purchases up, prices down—that's the gist of a new Frost & Sullivan report on portable computers which takes a hard look at this industry from now through 1989. Some of the key findings:

- Unit costs (in 1984 dollars) will drop because of standardization of production and tough competition. Today's average price of $1,750 could easily drop to $1,300 by 1989.
- Volume gains will average about 11% a year, with the total number of units approaching 2.1 million by 1989 (versus an estimated 1.5 million this year).
- Volume gains will taper off over time as the market matures. This year's estimated 19% advance is expected to slow down to 5% by 1989.

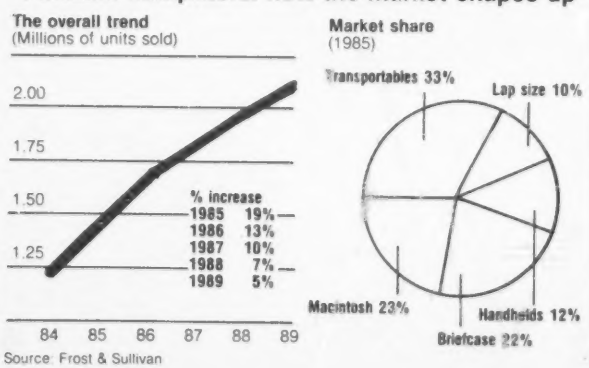
Growth rates are expected to differ among the five different types of portables analyzed. Frost & Sullivan researchers say that briefcase sized models will post the biggest advances—projections call for growth rates of 24% a year in units, 14% a year in dollars. Fully functional models with full-page displays are expected to be on the market by next year. And a significant decline in cost after that is expected to further encourage sales.

On the other hand, transportables and hand-held models are expected to decline in both units and revenues. Thus, transportables, which were the biggest sellers in 1984 with 444,000 units, will fall by more than 8% a year through 1989 (to 286,000 units).

The market for lap-sized models (expected to grow in units but not sales revenue) is more ambiguous. A Frost & Sullivan spokesperson says that these units do not have extensive application potential, but they appeal to many buyers on the basis of price alone.

Another trend that buyers may want t. note: Competition is expected to whittle down the large number of manufacturers now in the portable computer field.

Portable computers: how the market shapes up



Source: Frost & Sullivan

are cut-rate brass mill product imports—said to be coming in some 20-30¢/lb under comparable domestic producer levels. Nevertheless, supply-demand fundamentals suggest a pickup by fall as North American cutbacks help trim inventories and Free World refined demand moves up another 3-5% this year. Another boost could come from increased Chinese purchases. Prices could move up to near 70¢/lb by early fall, and may approach the 75¢/lb mark by November or December.

Computer software

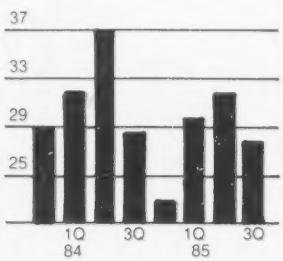
Prices are still tumbling. Discount retailers and mail order houses are now offering big markdowns on most programs. Some of the software firms themselves are getting into the act either by introducing new programs at extremely low prices or by offering discounts to volume buyers. These discounts often include contracts for technical help, new product previews, and various other services that aren't readily available through middlemen. Another ploy designed to bring down overall cash outlays: the modification of sophisticated products for the low end.

Polyvinyl chloride

Prices are a bit wobbly these days. Transaction quotes for pipe grade are now reportedly in the 28¢/lb range—far under the 34¢/lb high of April and back to where they were at the beginning of the year. One of the reasons: high pipe inventories which, in turn, have pushed PVC pipe tags as much as 20% under last year's levels. Low operating rates (only about 75% for 1985 as a whole) and restrained shipment gains (only 1.5% this year versus more than 10% in 1984) are also expected to keep a lid on prices.

PVC (pipe grade)

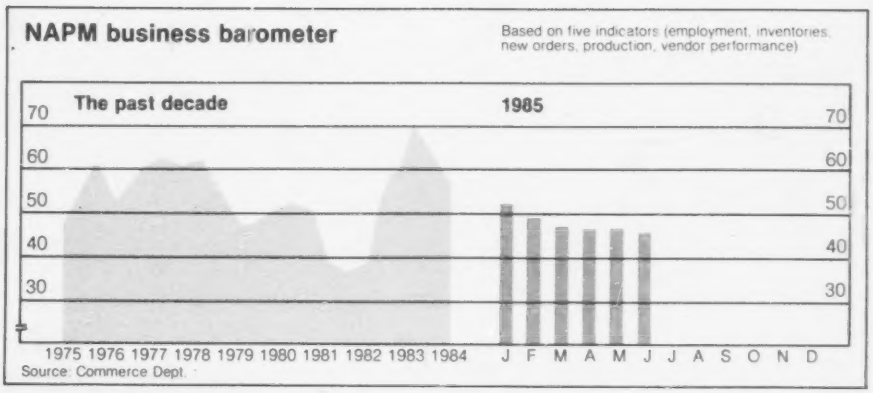
(Transaction price, ¢/lb.)



Computers

Prices are still falling—IBM has slashed prices 6-23% on some mainframes and mid-sized models, and AT&T has knocked 20% off some minicomputers. At the low end of the market, Atari's new 520 ST Personal Computer (a 512K machine with monitor and disk drive that lists for $799) could put downward pressure on Apple's II line (similarly configured but with less memory) which lists for over $1,000. Another sign of easiness: Microcomputer sales at latest report were virtually flat—down more than 30% under last year's levels.

BUSINESS DATATRAK


NAPM business barometer
Based on five indicators (employment, inventories, new orders, production, vendor performance)
The past decade
1985
70
60
50
40
30
1975 1976 1977 1978 1979 1980 1981 1982 1983 1984
J F M A M J J A S O N D
Source: Commerce Dept.

KEY ECONOMIC TRENDS

Pesky problems persist, bright spots seen

The next few quarters don't look all that bad. Granted, there are some negative forces working such as the advanced age of the current recovery (now over two-and-a-half years old), the relatively strong dollar, and the huge budget and trade deficits, but there is also some good news.

Housing and autos, for example, are doing very well. As one economist noted, "It would be very difficult, if not impossible, for the economy to slide into a recession while these two industries are so strong."

Even capital spending remains relatively healthy. Recent surveys suggest about a 6% increase in real (adjusted for inflation) plant and equipment outlays this year. And machine tool orders, another indicator of capital spending, have not dropped in recent months as many analysts predicted. (See accompanying chart). Much of this buoyancy can be traced to increased orders from the auto, aerospace, and defense industries.

And other positive factors include slowly declining interest rates and still-low inventory/sales ratios. The former should help loosen corporate and consumer purse strings while the latter guarantees that new orders will be quickly translated into production gains.

Booming construction awards also suggest higher output. These "new orders" for construction are close to last year's highs and should help keep demand up near peak levels for building materials, appliances, and home furnishings.

The last three months have been the strongest ever in total construction awards. F.W. Dodge economist George A. Christie says the current escalation, after holding at a year-long plateau, is a "breakthrough" that will rev up the industry to full strength in the second half of 1985.

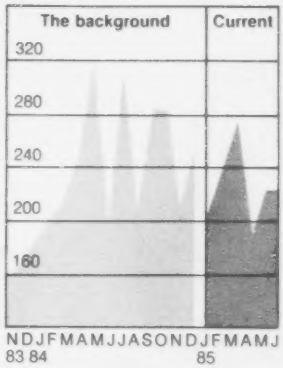
Irwin Kellner, chief economist at Manufacturer Hanover sees another positive note in the construction outlook: "Three years ago when mortgage rates topped 18%, all but 15% of U.S. households were precluded from buying a home. Now that fixed mortgages are down to 12%, some 40% of U.S. households can afford to buy a house."

Consumers will be doing their part in other areas as well to keep activity in high gear. Even though the level of installment debt is high, it doesn't seem to be curtailing purchases to any great extent.

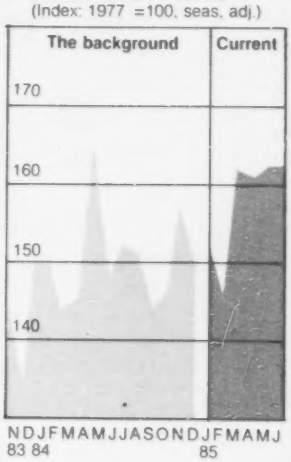
This is best appreciated by looking at the savings ratio (savings as a percent of disposable income). Note in the accompanying chart that the ratio is far under the 1981-82 recession levels. Some consumer surveys indicate the rate could edge down in

Leading indicators

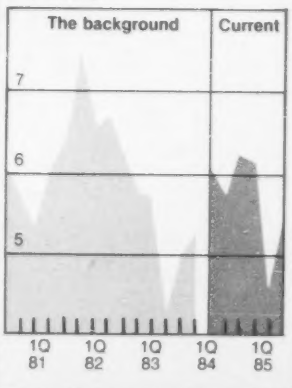
1. Machine tool orders
(Millions of $)



2. Construction awards
(Index: 1977 =100, seas. adj.)



3. Savings rate
(Percent)



the second half of the year, perhaps back into the 4.5-5% range.

Combined with other positive factors, this could mean that industrial production—stagnating for almost a year now—may be ready for a modest advance. The second half index could rise into the 168 range (1967 = 100)—a gain of nearly 4% at annual rate over the first half performance.

This, in turn, could breathe new life into the real GNP—pushing totals up at 3-4% annual rate through year-end. That's better than the anemic 1.5% pace of the first six months.

All in all, there still seems to be some life in the recovery that began in the first quarter of 1983.

Office space costly, rising higher

Finding reasonably-priced office space in new central city buildings is becoming increasingly difficult.

A new survey of office space in 15 U.S. cities by Howard Ecker & Co. finds that the average rate in central building districts jumped 14.1% over the last year. The actual dollar figure is put at an average $27.33/square foot.

And that's not the whole story. For example, space in a prestigious office building in New York City goes for an astronomical $50/square foot or more. These high, rapidly rising rates are not new.

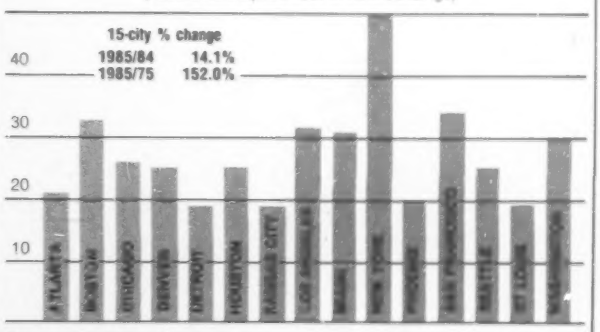
The study also contains estimates on what it would cost to move and maintain an employee in each of 15 surveyed cities—based on non-rental costs plus one year's rent for 200 square feet of office space (a widely accepted average of the amount of space required by the typical office worker).

New York leads the pack here. The yearly outlay is put at just over $24,000. But even the 15-city average of $17,500 is pretty hefty.

One hopeful sign: Office vacancies in many cities are very high, suggesting that some negotiation may be possible. Cities with the highest vacancy rates include Denver (26%), Phoenix (20%), Houston (19%), Atlanta (15.5%), Seattle (14.5%), and Kansas City (13%). New York's low 6% rate is one reason why prime space costs in that city are so high.

The high cost of office space

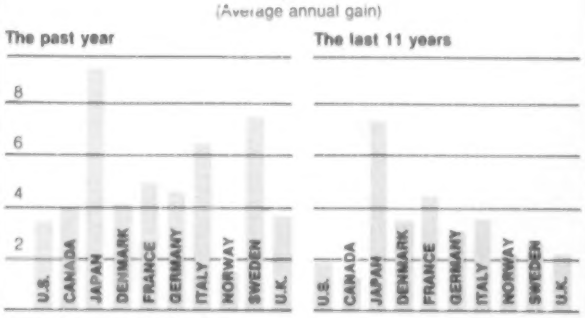
(Rental rate/square foot in new buildings)



Source: Howard Ecker & Co.

Factory productivity gains: An international comparison

(Average annual gain)



Source: Bureau of Labor Statistics

Nippon leads league, U.S. way behind

The rest of the Free World is doing a much better job of producing than the U.S. That's one of the major reasons domestic producers are having so much trouble competing.

Granted, our side did rack up a 3.5% productivity gain last year, but that was still poor performance compared to our trading partners. Japan led the list with a 9.5% increase, followed by Sweden (6.8%), Italy (6.3%), France (5.0%), Germany (4.7%), Canada (4.0%), and the U.K. (3.9%).

A recent Labor Department study suggests this is indicative of a long-term trend in which other Free World nations will continue to outpace the U.S. For example, over the last 11 years, the 2% U.S. average annual productivity increase looks puny compared to Japan (7.3%), France (4.6%), Italy (3.7%), and Germany (3.5%).

These greater efficiency gains—plus a strong dollar—have more than offset the fact that our average pay hikes have generally tended to lag behind those of most other industrial nations. That's why U.S. unit labor costs *vis a vis* the rest of the world look pretty bad.

Last year, for example, U.S. unit labor costs remained unchanged, while they fell significantly in all competing nations—with these declines noted (in U.S. dollars): Germany (−11%), Italy (−10%), France (−10%), U.K. (−8%), Canada (−7%), and Japan (−6%).

In light of these declines in unit labor costs, it's not difficult to understand why imports are such a problem in the U.S. And 1985 performance promises no dramatic reversal in the above trend.

What this means is that continuing overseas competitive gains will push our import total to new highs, probably something near $130-$140 billion—20-30% above last year's levels.

CURRENT PRICES

No bangs, just a few whimpers

Industrial prices continue to mark time as current readings disclose only a one-half percent increase over last summer's figures. Offsetting trends in individual product lines are holding averages pretty much at month-ago levels.

And there isn't any near term change anticipated as raw material averages (usually the first sector to feel any shift in the inflation climate) actually continue to drift lower—falling by almost 2% over the latest 30-day period.

Also on an optimistic note is the downdrift in energy tags following an earlier runup. Even the advances in electricity and gasoline are now being more than offset by declines in home heating oil,

This month's breakdown

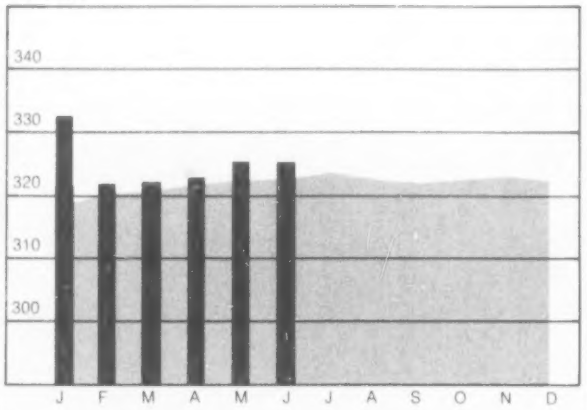
	Latest level (June)	% change from: Month ago	Year ago
Bearings	353.7	1.9	4.0
Bolts, nuts, etc	276.6	0.5	−0.9
Chemicals, inorganic	299.2	−0.1	2.6
Chemicals, organic	353.6	0.9	−4.8
Concrete products	321.5	0.4	3.7
Corrugated cartons	276.2	−1.6	5.0
Cutting tools, small	285.4	−0.1	2.0
Electric lamps (bulbs)	344.2	0.0	1.1
Electronic components	198.8	0.1	3.1
Fans and blowers	359.2	0.1	2.5
Foundry and forge products	362.7	0.0	0.3
Fuel oil (residual)	995.5	−6.0	−12.6
Furniture, commercial	307.1	0.4	3.4
Gasoline	587.8	1.9	0.7
Glass, flat	221.3	−0.2	−2.2
Glass containers	374.4	0.6	2.6
Gypsum products	338.1	6.5	−6.2
Hand tools	373.8	0.0	4.5
Hand tools, power driven	231.3	−0.2	4.8
Industrial furnaces	384.7	0.1	2.8
Integrating and measuring instruments	233.1	0.0	1.7
Internal combustion engines	347.7	0.0	2.7
Lubricating oil	770.7	0.0	−3.4
Lumber millwork	312.3	0.5	2.3
Material handling equipment	294.9	0.1	2.1
Metal containers	358.2	0.0	2.9
Metal mill shapes (nonferrous)	312.6	−0.9	−4.3
Metal tanks	305.2	0.0	0.0
Motors and generators	352.0	0.0	3.5
Motor trucks	293.3	−0.7	3.8
Office and store equipment	155.0	0.1	0.6
Paperboard	276.2	−2.1	−1.0
Paper boxes and shipping containers	273.7	0.0	4.2
Paper office supplies	239.9	0.0	−1.9
Paint	278.0	0.1	2.6
Plastic resins	309.1	0.9	−0.6
Precision measuring tools	263.3	−0.3	3.9
Pumps and compressors	356.1	0.2	1.8
Refractories	372.3	0.0	2.9
Rubber belts and belting	355.5	0.0	0.9
Scales and balances	229.4	0.1	−0.8
Steel products	364.5	−0.1	0.6
Switchgear	276.2	−0.3	−0.4
Textiles, synthetic fibers	156.6	−0.4	−2.4
Textiles, gray fabrics	151.7	−0.4	−1.7
Tires and tubes	237.7	−0.8	−2.2
Transformers and power regulators	232.6	0.3	1.8
Welding equipment	293.0	0.0	1.9
Wire and cable	202.8	−0.7	−0.2

Industrial prices

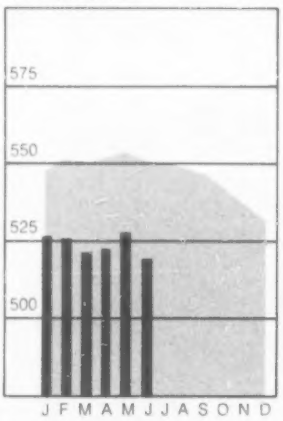
(Index: 1967 = 100)

1984 ■ 1985 ■

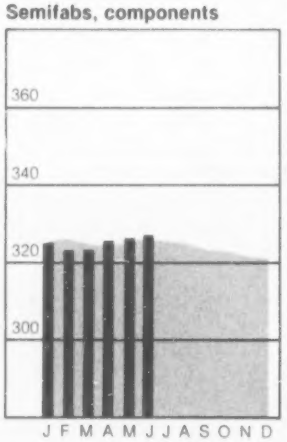
All items



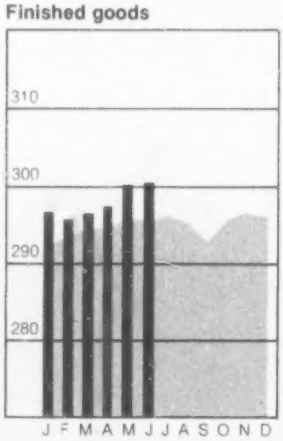
Raw materials



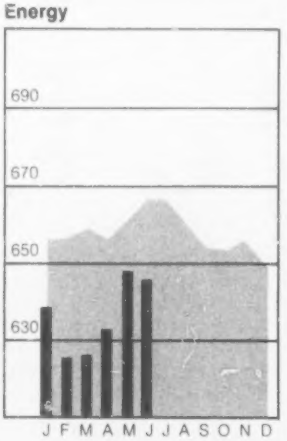
Semifabs, components



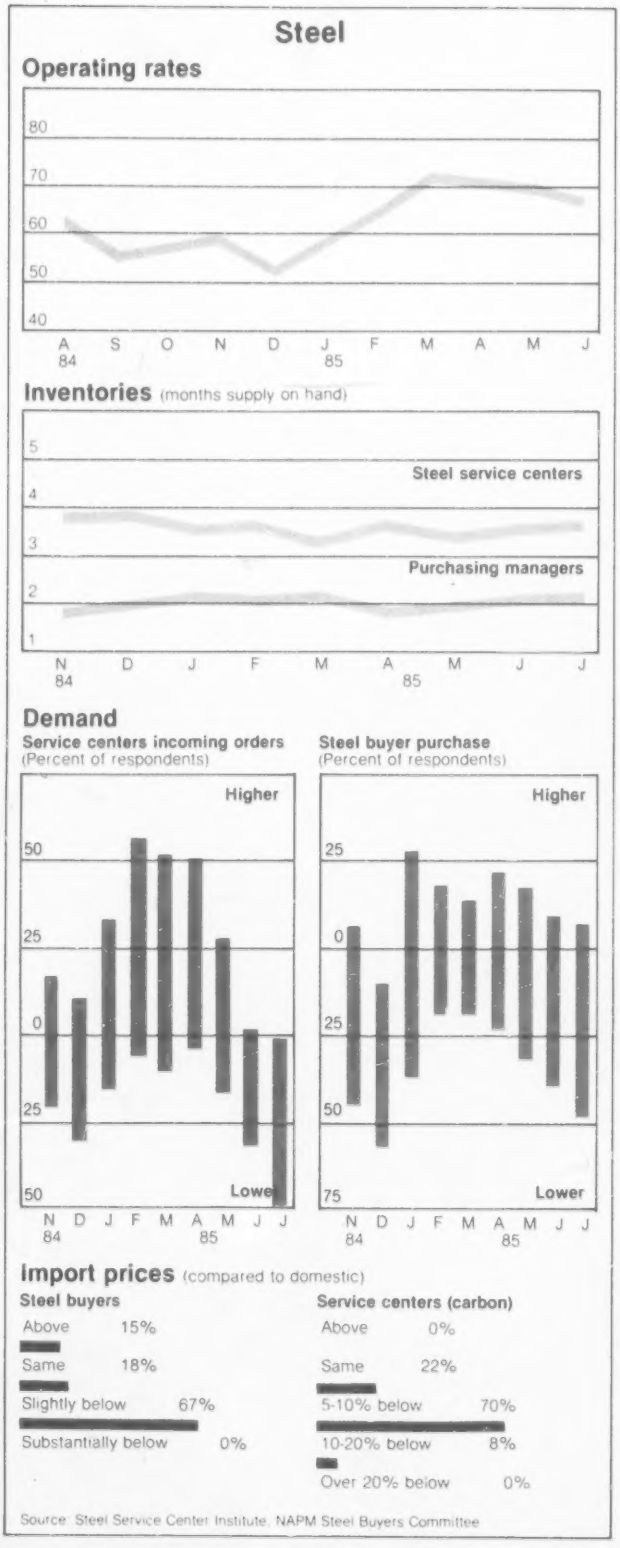
Finished goods



Energy



Source: Bureau of Labor Statistics



residual fuel, liquid petroleum gas, natural gas, diesel fuel, kerosene, and crude petroleum.

Other soft areas, according to the Bureau of Labor Statistics, include textiles (where both man-made fibers and grey goods fell last month), tires and tubes, corrugated cartons, and most nonferrous metals, including aluminum, copper, zinc, and lead. Steel also remains weak.

Higher quotes were reported in organic chemicals and plastic resins which are both up a full percentage point over the last month.

Building materials were also relatively strong, reflecting good housing demand. Increases were noted in concrete products, gypsum, softwood lumber, millwork, sand and gravel, and paving mixtures—more than enough to offset easing in plywood, plastic construction products, and asphalt felting.

Capital goods are also edging up, although the overall average advance of 0.4% (3.6% at annual rate) can hardly be called earth-shaking. On the upside are plastics industry machinery, agriculture machinery, aircraft, and commercial furniture.

STEEL SCENE

Steel in the doldrums

The summer lull is taking its toll on steel—demand is likely to remain relatively depressed for at least another few months.

Take a look at some of the near-term projections being made by steel service centers and metal buyers. On the buying front, some 47% of those responding to the latest NAPM steel survey expect to cut their steel receipts over the next three months—the biggest such percentage in years. And at the other end of the spectrum, the 7% looking to increase orders is the smallest such figure in years.

Distributors tell much the same story. Nearly half those responding to the latest Steel Service Center Institute (SSCI) survey say they expect a decrease in their incoming orders over the next few months—and the remainder seeing little change from recent levels.

Even more significant is the fact that not one single service center contemplates an increase over the summer months. You have to go way back to find this kind of reading.

Despite this, Andrew G. Sharkey, SSCI president, remains basically bullish—noting that his group continues to hold an optimistic outlook for the balance of 1985.

Another factor adding to distributors' cautious optimism could be the trend toward just-in-time deliveries. Steel service centers, with their emphasis on speedy service, are well positioned to capture a greater share of the overall steel market.

Other key steel trends:

- **Inventories:** Stocks have moved up fractionally on a months' supply basis

...continued on page 48

BUSINESS DATATRAK

...continued from page 29

over the latest 30-day period, primarily because of summer factory slowdowns. By and large, metal holdings are in pretty good shape—with months' supply for both distributors and buyers still significantly under year-earlier levels.

Both groups would like to see their stocks reduced further.

■ **Availability:** As might be expected, the current demand lull and ample capacity are creating a comfortable situation. Buyers, for example, do not see a single item on the problem list. Distributors have only isolated fears—and none involve the "bread and butter" steel items.

■ **Imports:** Overseas bargains persist despite the recent imposition of tonnage quotas. Indeed, service center responses seem to suggest that domestic-foreign price differentials are actually widening. Thus 8% put the foreign carbon steel price advantage in the 11-20%—double the 4% reading of the previous month. And in stainless, some 23% cite 11-20% price advantages—again well over last month's reading.

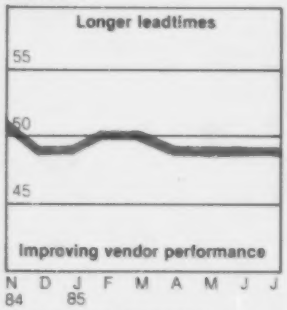
But things could change soon because of import quotas. Both buyers and service centers feel that they will be less dependent on foreign steel over the next six months—by a 2:1 margin in the case of buyers and a much bigger margin for distributors.

This trend toward more domestic dependence ties in with current steel import projections. Thus while imports in the second quarter accounted for about 23% of total U.S. consumption, the figure is expected to drop to near 20-21% by late in the year.

Monthly procurement status report

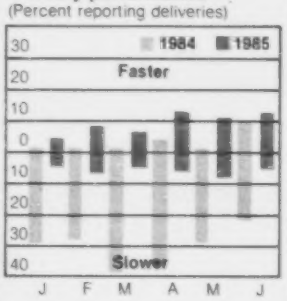
Leadtime index

A "diffusion" index based on 158 key commodities. Avove "50" indicates a tendency for leadtimes to stretch out. Below "50" suggests improving vendor performance.

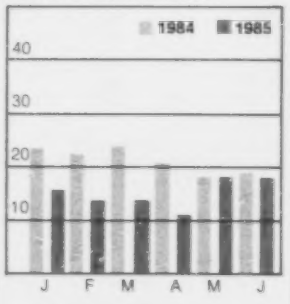


Delivery performance

(Percent reporting deliveries)

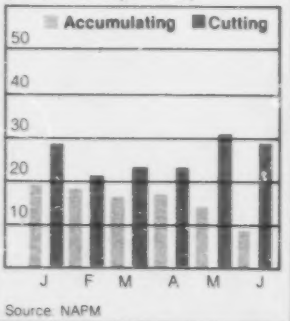


Forward commitments



Inventory strategy

(Percent of respondents)



Source: NAPM

PROCUREMENT STATUS

Smile, you're still in the driver's seat

Add another month to one of the longest buyers' markets in postwar history.

Virtually every industry is currently operating enough under its preferred levels to keep competitive pressures strong.

The latest NAMP Business Survey Committee report bears this out. Close to 25% of purchasing managers responding to the survey noted lower prices—two and a half times the number being socked with higher tags. This is the seventh consecutive month declines have predominated.

Declines have been reported in linerboard, corrugated containers, fuel oil, steel, aluminum, natural gas, and integrated circuits over the last month.

Prices aren't the only indication of today's soft markets. *PW*'s exclusive leadtime index continues at the neutral 50 mark for the fourth straight month—suggesting that lead times, on average, are still shrinking.

These shorter waits are also confirmed by NAPM's latest speed-of-delivery results: 13% experienced speedups over the recent month while only 5% noted slowdowns. The pattern has been the same for nine months now.

It is not surprising that PMs are starting to buy more and more on a hand-to-mouth basis. Some 15% of queried buying executives now say they are doing so for production materials. This is the highest such number in almost 2½ years.

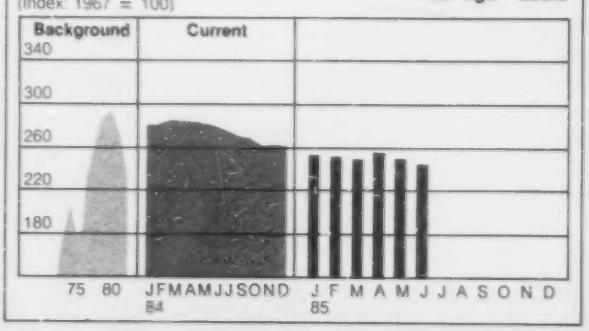
This helps explain the trend toward leaner inventories. And 29% of surveyed buyers say they are now paring stocks—more than three times the 9% who report higher holdings.

Confirmation of this comes from nearly half the *PW* readers responding to a new survey.

Raw material price barometer

(Index: 1967 = 100)

Latest month	243.9
Month before	252.0
Year ago	286.2



New toys in your electronic future

James A. Lorincz,
editor-in-chief

If you thought that decision making in purchasing in high-tech industries was going to get easier, forget that thought.

Almost nothing in the future of technological development suggests that, says Jerry Wasserman, vice president, Arthur D. Little Inc., Cambridge, MA.

Wasserman believes that the long-term implications of new technologies include increased risk and accelerated obsolescence and will require a high level of continuing education and long range planning. If anything, more participation at every level of the corporation in decision making will be important.

Here's what purchasing management can expect corporate management to be talking about in the area of new product capabilities in the near future.

Where the action will be

The accompanying charts tell the tale in the three markets Wasserman singles out for their exceptional potential: 1) information products; 2) biomedical products; 3) artificial intelligence.

Perhaps the key question today in information products is What constitutes the integrated office? Answers to that question are changing the direction of growth dramatically. By 1989, Wasserman says that it will be a $110 billion OEM market with peripherals replacing software as the fastest growing segment.

Wasserman's Rule of Thumb in evaluating software: If it takes someone more than a half hour to learn the software, forget it.

In the biomedical sphere, such developments as non-invasive surgery, artificial organs, nutrient implants, and self-testing diagnostic kits will spur growth. However, he believes that generally the Japanese are ahead of U.S. manufacturers in equipment and instrumentation.

The learning curve

Artificial intelligence is another story. The U.S. holds a slim lead of 18 months to 2 years over the Japanese in the field.

What is intelligence? According to Wasserman the best test is the blindfold test. If you close your eyes and are unable to determine if something was done by a machine or a person, that's intelligence. Computers, for example, must be able to do more than just calculate; they must be able to learn from experience.

The development of expert systems that provide systematic computer-based evaluation of everything from investment portfolio decisions and medical diagnosis to crisis management on the production line already exist. Gould is building such a crisis management system for GM's Saturn plant, for example. Typically such expert systems take several years to write and debug, he says.

An interesting twist in the development of the industry that is growing up around artificial intelligence is that high-tech personnel like engineers, software programmers, and other techies will be far less in demand than people-oriented professionals like psychologists, sociologists, behaviorial scientists, and Ph.Ds in other related fields.

PW

Bio medical

U.S. market revenues ($millions)

	1984	1989	Growth rate %
Medical lasers	80	275	28
Coronary angiop'asty	35	90	20
Artificial organs	750	1100	8
Medical nutrition	360	620	11
Over-the-counter Diagnostics	145	380	21
Total	1370	2465	11

Information products

U.S. market revenues ($billions)

	1984	1989	Growth rate (%)
Computers	25	35	8
Terminals	9	14	8
Peripherals	21	40	14
Software	7.5	20	21
Total	63	110	12

Artificial intelligence

Revenue ($billion)

	AI	Computer industry	Percent of total
1984	0.15	150	0.1
1985	0.25	160	0.15
1990	12	265	4.5
1995	65	350	18.5
2000	115	420	27.4

Artificial intelligence

Number of people

	AI workers	Computer industry (million)	Percent of total
1985	2,600	1.8	0.14
1990	100,000	2.3	4.3
1995	475,000	2.5	19.0
2000	650,000	2.5	26.0